SMSC®
SUCCESS BY DESIGN

Multimedia and Control Networking Technology

OptoLyzer OL3050e

Version: 1.2.x
User Manual

Document Information:
Version: V1.2.0-3
Date: 2010-10-05

MOST®
Media **O**riented **S**ystems **T**ransport

Copyright © 2006 - 2010 SMSC

Further Information

For more information on SMSC's automotive products, including integrated circuits, software, and MOST development tools and modules, visit our web site: http://www.smsc-ais.com. Direct contact information is available at: http://www.smsc-ais.com/offices.

SMSC Europe GmbH
Bannwaldallee 48
76185 Karlsruhe
GERMANY

SMSC
80 Arkay Drive
Hauppauge, New York 11788
USA

Technical Support
Contact information for technical support is available at: http://www.smsc-ais.com/contact.

Legend

Copyright © 2006 - 2010 SMSC. All rights reserved.
Please make sure that all information within a document marked as 'Confidential' or 'Restricted Access' is handled solely in accordance with the agreement pursuant to which it is provided, and is not reproduced or disclosed to others without the prior written consent of SMSC. The confidential ranking of a document can be found in the footer of every page. This document supersedes and replaces all information previously supplied. The technical information in this document loses its validity with the next edition. Although the information is believed to be accurate, no responsibility is assumed for inaccuracies. Specifications and other documents mentioned in this document are subject to change without notice. SMSC reserves the right to make changes to this document and to the products at any time without notice. Neither the provision of this information nor the sale of the described products conveys any licenses under any patent rights or other intellectual property rights of SMSC or others. There are a number of patents and patents pending on the MOST technology and other technologies. No rights under these patents are conveyed without any specific agreement between the users and the patent owners. The products may contain design defects or errors known as anomalies, including but not necessarily limited to any which may be identified in this document, which may cause the product to deviate from published descriptions. Anomalies are described in errata sheets available upon request. SMSC products are not designed, intended, authorized or warranted for use in any life support or other application where product failure could cause or contribute to personal injury or severe property damage. Any and all such uses without prior written approval of an officer of SMSC will be fully at your own risk. MediaLB, SMSC and MOST are registered trademarks of Standard Microsystems Corporation ("SMSC") or its subsidiaries. Other names mentioned may be trademarks of their respective holders.

SMSC disclaims and excludes any and all warranties, including without limitation any and all implied warranties of merchantability, fitness for a particular purpose, title, and against infringement and the like, and any and all warranties arising from any course of dealing or usage of trade. In no event shall SMSC be liable for any direct, incidental, indirect, special, punitive, or consequential damages; or for lost data, profits, savings or revenues of any kind; regardless of the form of action, whether based on contract; tort; negligence of SMSC or others; strict liability; breach of warranty; or otherwise; whether or not any remedy of buyer is held to have failed of its essential purpose, and whether or not SMSC has been advised of the possibility of such damages.

OptoLyzer OL3050e

Copyright © 2006 - 2010 SMSC
All rights reserved

Document History

Version	Date	Section	Comment on changes
1.2.0-3	2010-10-05	5.1	Weight added.
		5.2	Table 5-4: Description of Line IN and Line OUT improved.
1.2.0-2	2010-03-15	First Page	Bar code added
1.2.0-2d1	2010-03-12	3.1.2	Description of power jacks (main) improved.
		5.2	MOST ePHY connector assignment corrected: Pin 2 and pin 3 turned.
1.2.0-1	2007-03-28	First Page	Bar code added
		5.2	MOST ePHY connector assignment: Table 5-3: assignment corrected
		5.2	Technical Data of the Hardware Trigger Interface: Table 5-5: assignment corrected Figure 5-1: added; explanation and note added
		5.2	Input: Value of the switching threshold corrected
1.0.X-2	2006-09-13	General	Document converted to SMSC style
		1	Preface adapted
		3.1.1	Table 3-1: LED status: more details
		5.2	Table 5-2: assignment corrected
1.0.X-1	2006-02-10	-	First version

Copyright © 2006 - 2010 SMSC

Table of Contents

1 PREFACE 7

1.1 Intended Use 7
1.2 Scope of Delivery 7
1.2.1 Software on the CompactFlash 7
1.2.2 Software on the USB Stick 7
1.3 Term Definitions 8

2 INTRODUCTION 9

2.1 Features in Use with OptoLyzer OL3050e 9
2.2 Typical Application 10
2.2.1 Analyzing the MOST Network as Spy 11
2.2.2 Performing Control Tasks 11

3 INSTALLATION 12

3.1 OptoLyzer OL3050e System Description 12
3.1.1 Front View of the OptoLyzer OL3050e 12
3.1.2 Rear Panel of OptoLyzer OL3050e 14
3.1.3 Connectivity Diagram 16
3.1.3.1 Connectivity Diagram – Front Panel 16
3.1.3.2 Connectivity Diagram – Rear Panel 17
3.2 Software on the OptoLyzer OL3050e 18
3.3 Laptop/PC and OptoLyzer OL3050e Software Structure 18

4 MAINTENANCE OF THE OPTOLYZER OL3050E 19

4.1 Service Panel on the Rear Panel 19
4.1.1 Rear Panel of OptoLyzer OL3050e: Service 19
4.1.2 Connectivity 20
4.2 Update CompactFlash 21
4.3 Update PCI Board (DOS Tools) 22
4.4 Update All (CompactFlash and PCI Board) 23

5 TECHNICAL SPECIFICATION 24

5.1 Mechanical Characteristics 24
5.2 Electrical Characteristics 25

APPENDIX A: FURTHER READING 27

APPENDIX B: LIST OF FIGURES 28

APPENDIX C: LIST OF TABLES 29

APPENDIX D: INDEX 30

Copyright © 2006 - 2010 SMSC

Copyright © 2006 - 2010 SMSC

1 Preface

1.1 Intended Use

This SMSC product is intended to be used for developing, testing, or analyzing MOST® based multimedia products and systems by persons with experience in developing multimedia devices.

The operation of this SMSC product is only admitted with original SMSC devices, e.g., provided power supply.

1.2 Scope of Delivery

The OptoLyzer OL3050e is delivered with:

- OptoLyzer OL3050e
- User Manual (printed version)
- Power-supply
- Cables
- Accessories

Please check your shipment for completeness.
Please direct complaints to sales-ais-europe@smsc.com (Europe and Asia) or to sales-ais-usa@smsc.com (America). Providing the delivery note number eases the handling.

1.2.1 Software on the CompactFlash

The CompactFlash™ comes with:

- Microsoft Windows CE™ as operating system
- Microsoft Windows CE loader
- Extended software with spy functionality and MOST drivers, MOST Server

1.2.2 Software on the USB Stick

The USB stick comes with a complete backup of the CompactFlash. In addition, maintenance utilities are offered on the USB stick (described in section 4.2 on page 21).

Copyright © 2006 - 2010 SMSC

1.3 Term Definitions

For better understanding of the following chapters, this section provides explanation to special terms, used in the description of the OptoLyzer OL3050e.

Term	Definitions
Client	The connected laptop/PC is called client, additional or target PC. The OptoLyzer OL3050e is designated as host.
Controlling software	A software that is running on the client. It manages the communication with the OptoLyzer OL3050e. The controlling software comprises both the handling of spied data and performing control tasks.
Event	The OptoLyzer Suite is working with a common format. Therefore the incoming data is converted to Events.
Host	The OptoLyzer OL3050e is designated as host. The connected laptop/PC is called client, additional or target PC.
INIC	Intelligent Network Interface Controller
MOST Server	The MOST Server is an application that starts automatically on the OptoLyzer OL3050e. It manages control and/or analyzing tasks and the communication to the connected laptop/PC the OptoLyzer Suite is running.
OptoLyzer G2 3050e	This product comprises OptoLyzer Suite and OptoLyzer OL3050e.
OptoLyzer OL3050e	Hardware of the OptoLyzer G2 3050e. It will be connected into the MOST Network. Afterwards it takes the data for further processing.
OptoLyzer Suite	This is the software of the OptoLyzer G2 3050e. It covers the OptoLyzer Suite main window and Viewer, Recorder, Graph and Watch. In addition, the Transceiver and the MOST Interface Control can be started in the OptoLyzer Suite.
UTP	Unshielded twisted pair cable

Table 1-1: Term Definitions

Copyright © 2006 - 2010 SMSC

2 Introduction

The OptoLyzer OL3050e is a versatile hardware for debugging and analyzing Control and Packet data in a MOST50 electrical network. It provides connection to the MOST50 electrical network via a MOST ePHY connector that is based on the Electrical Physical Layer. When used in combination with the OptoLyzer Suite all data is transferred via an Ethernet connection to a PC running the OptoLyzer Suite. The device is prepared to work in laboratory (stationary) environments (voltage range of 100 – 240 V DC transformed to 12 V). The OptoLyzer OL3050e is able to run in timing master, slave, and bypass mode.

2.1 Features in Use with OptoLyzer OL3050e

These are the features of the OptoLyzer OL3050e:

- Versatile MOST Network analysis tool for Control and Packet data
- MOST50 network electrical interface
- Ethernet interface allows remote control and analysis data on PC
- Line IN/OUT interface
- S/PDIF IN/OUT interface
- 4 opto-coupled TTL hardware trigger
- LEDs indicating different states of device and network
- Support for 48kHz system sample rates
- Time stamp resolution: 1 µs; accuracy: 1 frame
- MOST50 UTP cable set
- Bootable USB stick for firmware update and service purposes
- Optional connections for keyboard, mouse and monitor, USB

Copyright © 2006 - 2010 SMSC

2.2 Typical Application

A MOST Network might consist of various MOST devices. State-of-the-art multimedia systems need powerful tools for both finding of irregularities and controlling of the MOST Network's interfaces. The OptoLyzer OL3050e is developed to perform these tasks.

A typical application is depicted in Figure 2-1 below. The OptoLyzer OL3050e is part of the MOST Network and spies its data. The data is transmitted to a connected PC via an Ethernet connection. A controlling software (e.g., OptoLyzer Suite) handles the spied data. Additionally, control tasks can be performed via a controlling software.

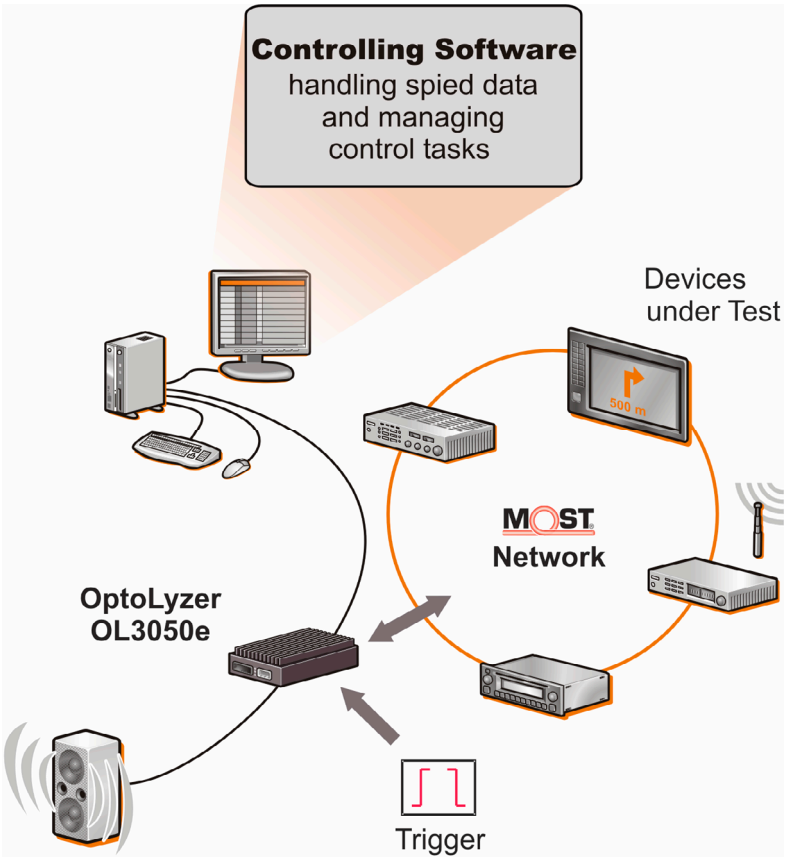

Figure 2-1: Typical Application of the OptoLyzer OL3050e

The following sections describe the concepts for both:

- Analyzing the MOST Network as spy

And

- Performing control tasks (via e.g., OptoLyzer Suite)

Copyright © 2006 - 2010 SMSC

2.2.1 Analyzing the MOST Network as Spy

Since the OptoLyzer OL3050e spies data on the MOST Network by default it has simply to be connected in a MOST Network to use this feature. In this mode it is able to deal with heavy data loads. Data recovery is ensured. When operating as spy the OptoLyzer OL3050e is invisible in the MOST Network. The OptoLyzer OL3050e spies the complete traffic on the Control data channel and the Packet data channel of a MOST Network. An included application – the MOST Server - takes the incoming data and converts it into a common format named 'Events'. The MOST Server provides a socket connection for further processing. If the OptoLyzer OL3050e is used in combination with controlling software the spied data can be displayed in different kind. E.g., the data can be monitored in a window for on-line analyzing. Furthermore the data can be shown in a graph for statistic purposes. Even data recording is possible for off-line analyzing later on (see Figure 2-1). Trigger inputs allow interfacing with external hardware events.

2.2.2 Performing Control Tasks

The OptoLyzer OL3050e can also operate as timing master or slave. Then the OptoLyzer OL3050e supports performing control tasks via controlling software on a client. For example the mode of the OptoLyzer OL3050e can be changed. Normal operation assumed, messages can be sent and viewed for e.g., test or simulation on the MOST Network. In addition, the OptoLyzer OL3050e is able to route streaming data.

Copyright © 2006 - 2010 SMSC

3 Installation

This chapter describes the elements and connectors of the OptoLyzer OL3050e. A connectivity diagram shows how to connect the OptoLyzer OL3050e and the client in a typical MOST Network application.

Specific aspects of the software structure (OptoLyzer OL3050e software and controlling software on the client) are shown in section 3.2 and 3.3.

3.1 OptoLyzer OL3050e System Description

The OptoLyzer OL3050e comes with all components configured and prepared for default operation. When used in combination with the OptoLyzer Suite it needs to be connected to a PC running the OptoLyzer Suite. The following sections describe the different views of the OptoLyzer OL3050e. Service aspects as e.g., an update procedure are handled in chapter 4 on page 19.

3.1.1 Front View of the OptoLyzer OL3050e

The front view of the OptoLyzer OL3050e provides access to external interfaces and elements for controlling and information.

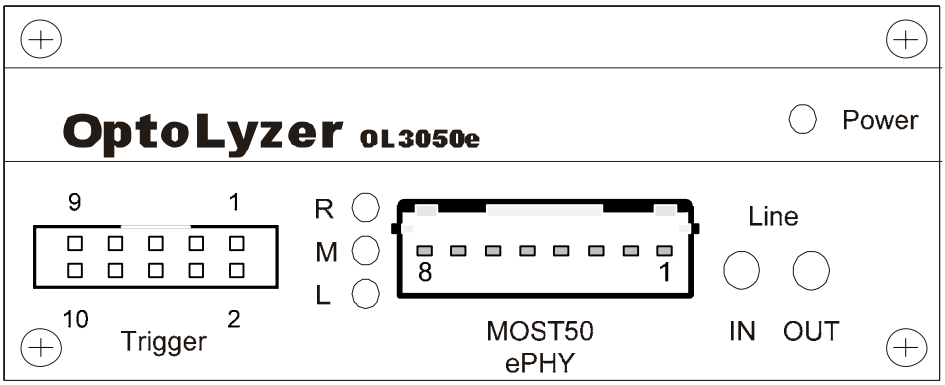

Figure 3-1: OptoLyzer OL3050e (Front View)

The components are described from left to right:

Trigger interface:
There are four trigger inputs that can be used if needed. In the spy operation mode the software will detect input trigger changes and send them over the Ethernet. For further technical details refer to chapter 5.2 on page 25.

Copyright © 2006 - 2010 SMSC

LEDs:
To the right of the trigger interface there are three LEDs among each other. Each of them is supporting different functionalities depending on the operating mode.

LED label	Color	Description
R (Ready)	Red	The red LED indicates different start up states of the OptoLyzer OL3050e. If it is continuously lighting the OptoLyzer OL3025o is ready. This LED is blinking if a twinkle command is sent from e.g., OptoLyzer Suite (twinkle LED).
M (Message)	Yellow	This LED is on if: • the MOST Network is locked and • the OptoLyzer OL3050e is in node mode (master or slave) and • a Control or Packet message is addressed to the OptoLyzer OL3050e node.
L (Lock)	Green	This LED is on when the MOST Network is locked.

Table 3-1: Status LEDs

MOST50 ePHY connector:
The OptoLyzer OL3050e can be connected to the MOST Network via a MOST ePHY connector (AMP 1376366-1):

- ETxp, ETxn: Electrical positive and negative output for MOST Network
- ERxp, ERxn: Electrical positive and negative input for MOST Network

For more details regarding the pin assignment refer to section 5.2 on page 25.

Audio Line IN/OUT:
The OptoLyzer OL3050e provides one audio input and one audio output connector centered on its front panel. For technical details refer to section 5.2 on page 25.

LED Power:
This green colored LED indicates that power is switched on.

Copyright © 2006 - 2010 SMSC

3.1.2 Rear Panel of OptoLyzer OL3050e

The rear panel of the OptoLyzer OL3050e provides access to power jack, power switch, a reset button, interfaces to a remote PC and to audio devices. In addition, several service interfaces are supported but hidden behind a service panel. This panel must be unscrewed in a service case to get access to the hidden service interfaces. The normal operation mode is depicted below. The service mode is described in chapter 4 on page 19.

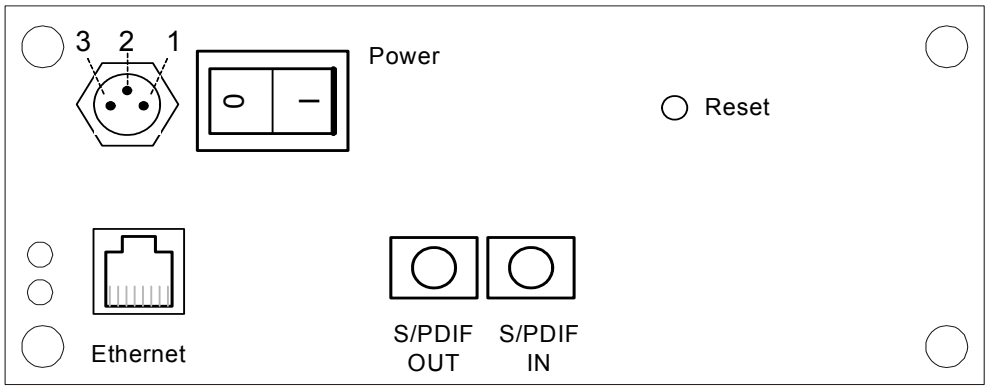

Figure 3-2: OptoLyzer OL3050e (Rear Panel: Normal Operation)

All components of the rear panel are described from left to right and top down:

Power jack (mains):
The power jack needs a power supply in a voltage range of 8 V – 30 V DC. The OptoLyzer OL3050e comes with an AC power supply unit (voltage range from 100 V to 240 V DC). For technical details refer to section 5.2 on page 25.

Power on/off switch:
The power on/off switch is located to the right of the power jack. In position ‘I’ the OptoLyzer OL3050e is on, in position ‘0’ the power is switched off.

The OptoLyzer OL3050e supports ignition. If pin 2 (ION) is connected with GND the OptoLyzer OL3050e is switched off. If pin 2 (ION) is not connected or is connected with a high level signal (8 V – 30 V) the OptoLyzer OL3050e is switched on. For technical details refer to section 5.2 on page 25.

Reset:
If this button is pressed the OptoLyzer OL3050e is restarted.

Ethernet Interface:
This interface is the standard communication port that connects the OptoLyzer OL3050e to a PC via a 100Base-T Ethernet connection. Controlling software running on this PC e.g., the OptoLyzer Suite is able to control the OptoLyzer OL3050e and to receive its data. The connector is a standard RJ45. Left hand two LEDs give information on connection (Link LED: yellow) and traffic (Activity LED: green).

Copyright © 2006 - 2010 SMSC

S/PDIF
For monitoring and audio test, the OptoLyzer OL3050e supports one digital S/PDIF IN and OUT connection.

Regarding the S/PDIF IN: The S/PDIF controller contains a sample rate converter. This means that the S/PDIF IN data is not exactly the data coming into the MOST bus.

Copyright © 2006 - 2010 SMSC

3.1.3 Connectivity Diagram

The following sections describe how the OptoLyzer OL3050e can be integrated in a MOST50 network. In addition the connections are shown that are mandatory like the 100Base-T Ethernet connection with the laptop/PC running controlling software and the power supply. Furthermore some connections are menitioned that can be used for optional functionality like monitor, mouse, keyboard, analog, and digital audio devices.

3.1.3.1 Connectivity Diagram – Front Panel

Figure 3-3 depicts the connectivity diagram of the front panel. It shows how the OptoLyzer OL3050e can be integrated in a MOST50 network.

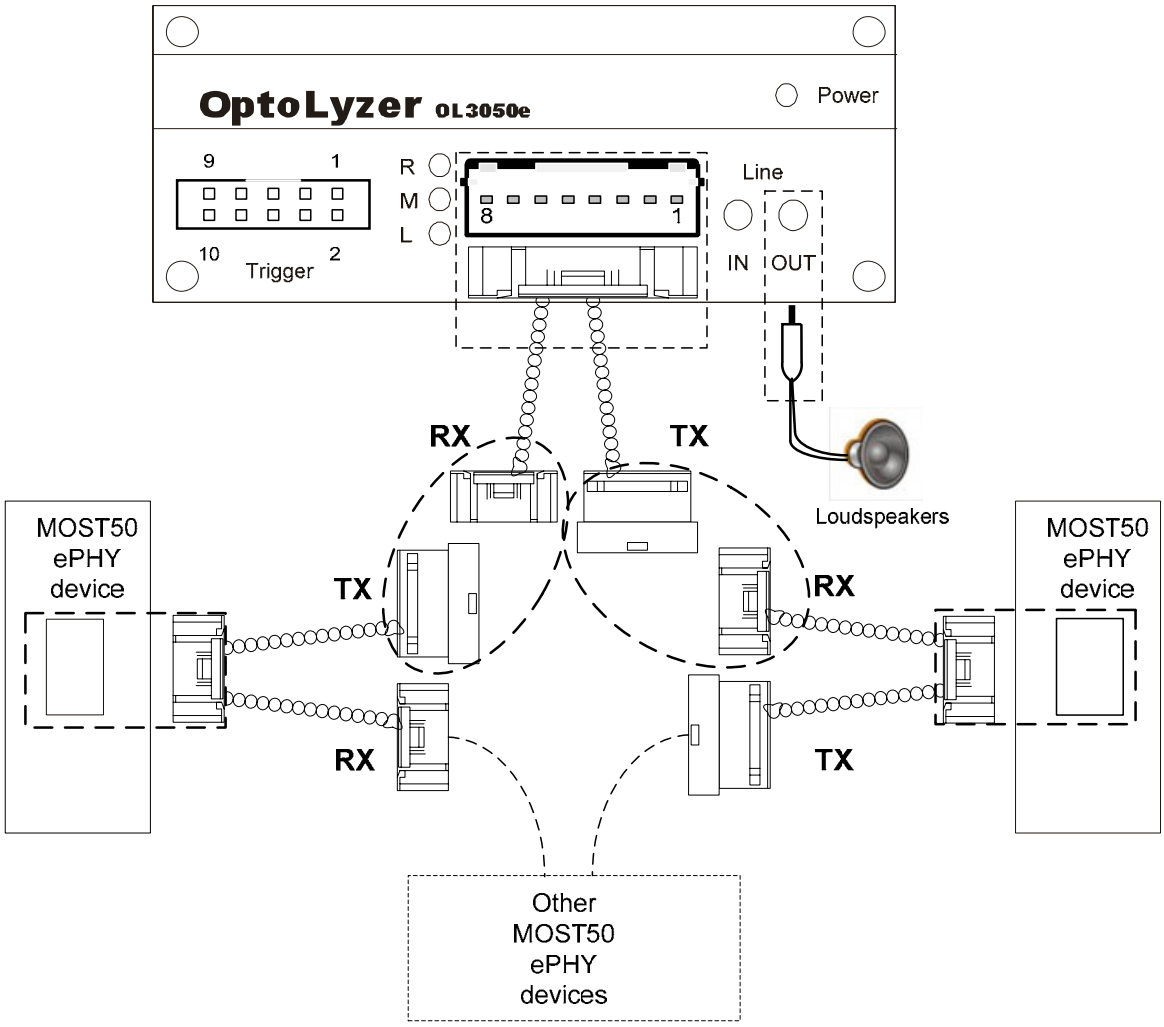

Figure 3-3: Connectivity Diagram – Front Panel

Copyright © 2006 - 2010 SMSC

3.1.3.2 Connectivity Diagram – Rear Panel

The connectivity diagram of the rear panel is depicted in Figure 3-4.

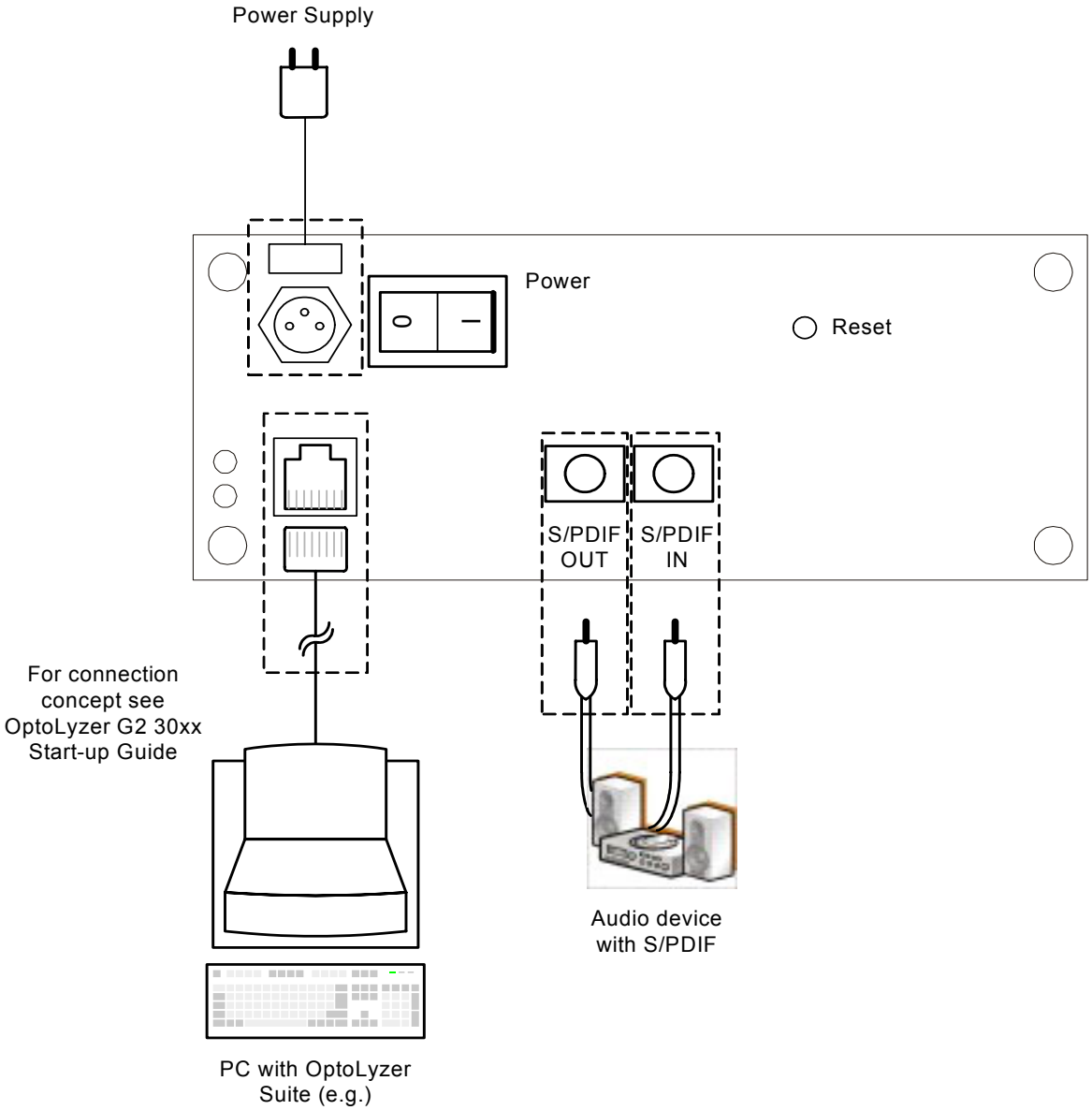

Figure 3-4: Connectivity Diagram – Rear Panel (Normal Operation)

Copyright © 2006 - 2010 SMSC

3.2 Software on the OptoLyzer OL3050e

The OptoLyzer OL3050e is delivered ready for use. All software components are provided as a firmware image on a 64 MB CompactFlash. This image is based on the operating system Microsoft Windows CE™ extended by modules needed for MOST, communication interfaces and the server application. A bootable USB stick comprises a backup image of the CompactFlash.

Note:
If both, the USB stick and the CompactFlash are inserted at the same time, the OptoLyzer OL3050e will use the USB stick during the startup procedure by default.

3.3 Laptop/PC and OptoLyzer OL3050e Software Structure

When the OptoLyzer OL3050e is switched a specific application – the MOST Server – starts up automatically. It manages control and/or analyzing tasks and the communication to a connected laptop/PC controlling software is running on.

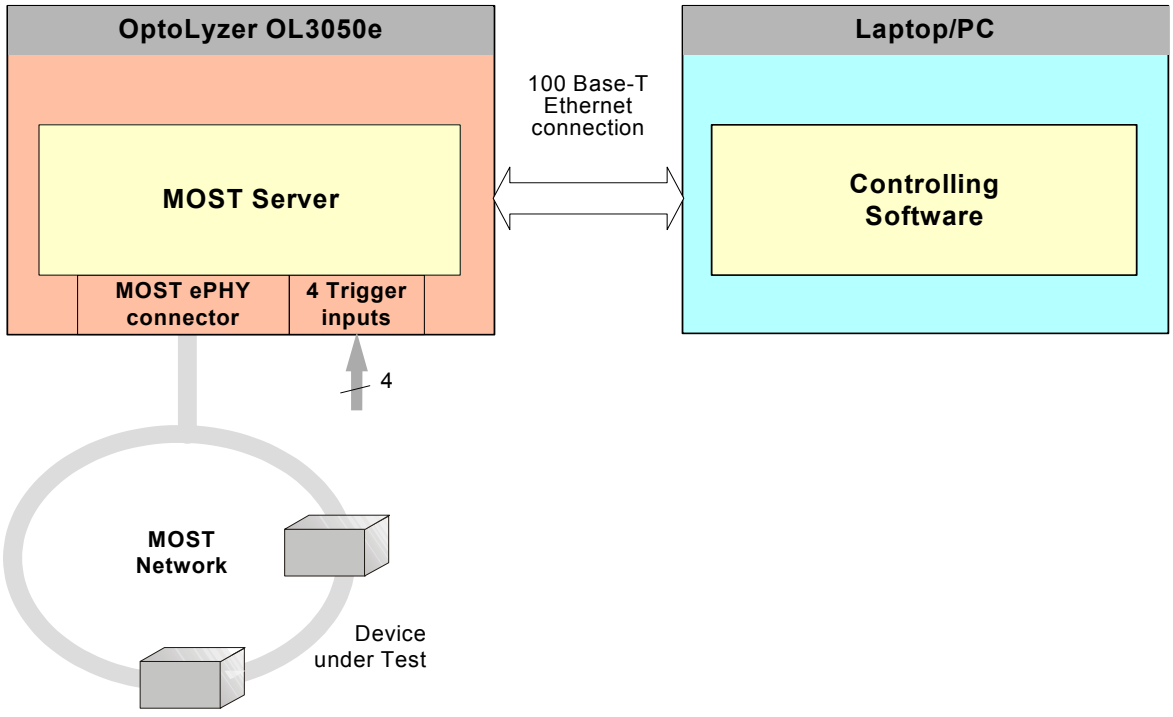

Figure 3-5: Software Structure

The interaction of the two software parts is managed via a 100 Base-T Ethernet connection. It is shown in Figure 3-5 above. The OptoLyzer OL3050e provides two logical channels for communication: a spy and a control channel. The channel, which handles controlling tasks, operates bidirectional, the channel, which transfers spy data, operates unidirectional namely in direction OptoLyzer OL3050e to the connected laptop/PC. For further information refer to *OptoLyzer Socket Protocol* [1]

Copyright © 2006 - 2010 SMSC

4 Maintenance of the OptoLyzer OL3050e

This chapter describes how to get access to the service panel and its interfaces. Section 4.2 covers the update of the CompactFlash. OptoLyzer OL3050e test and upgrade tools of the PCI Board are described in section 4.3.

4.1 Service Panel on the Rear Panel

In service cases e.g., when updating the system, the service panel must be unscrewed at the rear panel. Several service interfaces are supported but hidden behind this service panel. The service mode is depicted below. The normal operation mode and the associated interfaces are described in section 3.1.2 on page 14.

4.1.1 Rear Panel of OptoLyzer OL3050e: Service

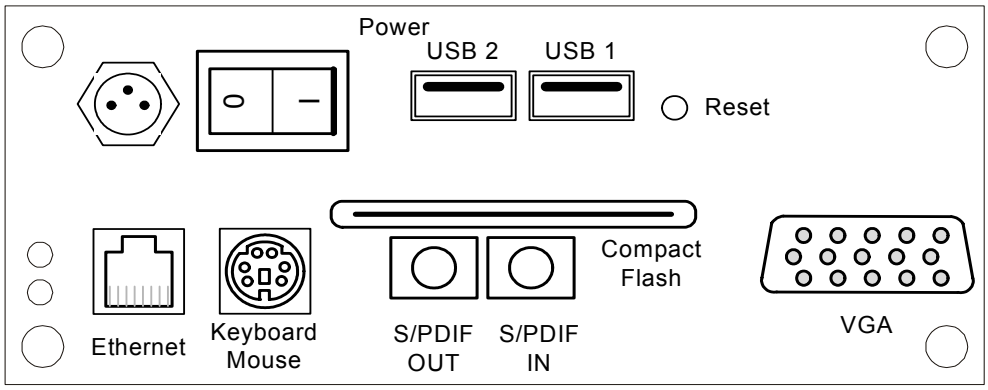

Figure 4-1: OptoLyzer OL3050e (Rear Panel: Service Operation)

Only the additional service interfaces are described below:

USB interfaces (2x):
Additional devices can be connected via two USB 2.0 connectors. E.g., the system can be updated via an attached USB stick.

PS2 interface:
The OptoLyzer OL3050e can be used without any external interfaces, but there is a PS2 interface for mouse and keyboard. It can be useful to connect a mouse and a keyboard for more functionality. The mouse and the keyboard are not part of the shipping.

Note:
Y cable for mouse and keyboard is needed.

Copyright © 2006 - 2010 SMSC

CompactFlash slot:
A CompactFlash slot is placed in the center of the rear panel. The delivered CompactFlash provides the operating system Microsoft Windows CE™ and all other software that is necessary for analyzing and controlling purposes.

VGA interface:
The hardware of the OptoLyzer OL3050e supports a VGA interface for connecting a VGA monitor. The display will be recognized automatically. The enclosed adapter can be used for connecting a VGA monitor.

4.1.2 Connectivity

The connectivity diagram of the rear panel is depicted in Figure 4-2.

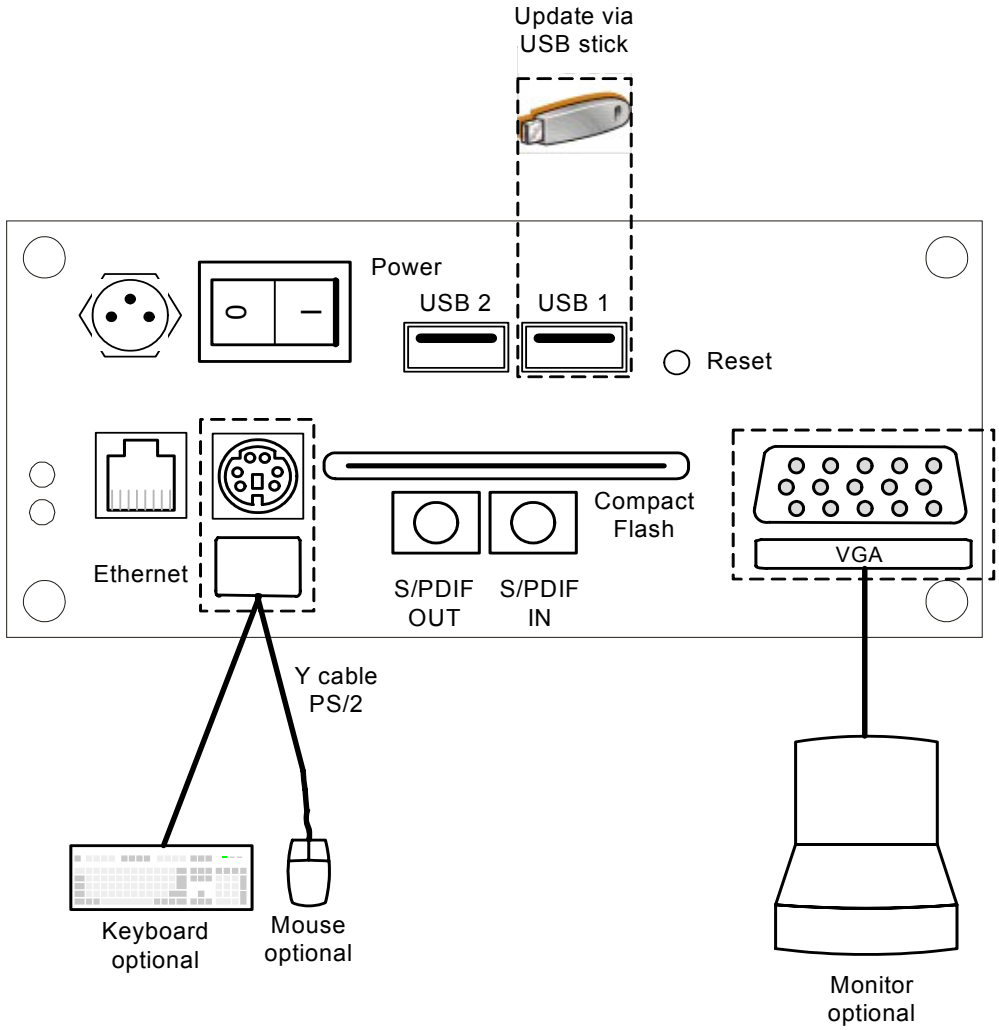

Figure 4-2: Connectivity Diagram – Rear Panel (Service Operation)

Copyright © 2006 - 2010 SMSC

4.2 Update CompactFlash

The OptoLyzer OL3050e is shipped with a bootable USB stick. This USB stick contains a complete backup of the original CompactFlash data (factory default). The CompactFlash can be recovered using the backup of the USB stick. The procedure how to recover the CompactFlash is described below.

To recover or update the OptoLyzer OL3050e obey the following procedure:

1. Switch off the OptoLyzer OL3050e.
2. Disconnect the connectors on the rear panel.
3. Unscrew the service panel.
4. Reconnect the power supply.
5. Connect a mouse, a keyboard and a monitor (not part of the shipment) according Figure 4-2.
6. Plug in the delivered bootable USB stick into a USB slot.
7. Restart the OptoLyzer OL3050e.
8. The OptoLyzer OL3050e displays a boot menu.

Note:
If no item is selected for some time the CompactFlash and the firmware are updated automatically (described in section 4.4 on page 23).

9. Enter ‘1’ for ‘Update CompactFlash’.
10. Follow the instructions. The CompactFlash memory will be overwritten.
11. After finishing the recovery procedure switch off the OptoLyzer OL3050e.
12. Remove the USB stick.
13. Disconnect the connectors on the rear panel.
14. Screw on the service panel.
15. Connect the power supply.
16. Restart the OptoLyzer OL3050e.
17. After the LED ‘R’ stops twinkling, switch off the OptoLyzer OL3050e.
18. Reconnect all cables.
19. Start the OptoLyzer OL3050e again.

Copyright © 2006 - 2010 SMSC

4.3 Update PCI Board (DOS Tools)

This USB stick also contains the DOS tools. Within the DOS tools the following options are provided:

- Check or Write License Keys
- Update FPGA firmware (e.g., OP2400)
- Update MOST Controller (INIC) firmware

Both FPGA firmware and MOST Controller firmware update can be performed automatically (easy) or manually (advanced).

The procedure to use the DOS tools is described below:

1. Switch off the OptoLyzer OL3050e.
2. Disconnect the connectors on the rear panel.
3. Unscrew the service panel.
4. Connect the power supply.
5. Connect a mouse, a keyboard and a monitor (not part of the shipment) according Figure 4-2.
6. Switch on the power.
7. The OptoLyzer OL3050e displays a boot menu.

Note:
If no item is selected for some time the CompactFlash and the PCI Board are updated automatically (described in section 4.4 on page 23).

8. Enter ‘2’ for Update PCI Board (DOS Tools).
9. Follow the instructions when working with the DOS tools.

For details how to use the DOS tools options please refer to the additional user manual *DOS Tools MOST PC Interfaces* that can be found on the CD.

Copyright © 2006 - 2010 SMSC

4.4 Update All (CompactFlash and PCI Board)

The USB stick offers the possibility to automatically update the CompactFlash and the PCI Board (FPGA firmware and MOST Controller firmware) in one step. This option is preset as default in the boot menu of the USB stick.

It is assumed the OptoLyzer OL3050e is connected according Figure 3-3 and Figure 3-4. The procedure to use the DOS tools is described below:

1. Switch off the OptoLyzer OL3050e.
2. Disconnect the connectors on the rear panel.
3. Unscrew the service panel.
4. Connect the power supply.
5. Connect a mouse, a keyboard and a monitor (not part of the shipment) according Figure 4-2.
6. Switch on the power.
7. The OptoLyzer OL3050e displays a boot menu.
8. Enter ‘3’ for ‘Update All (CompactFlash and PCI Board)’. Alternatively wait for some time. Then this item is performed automatically.
9. Follow the instructions.
10. After finishing the update switch off the OptoLyzer OL3050e.
11. Remove the USB stick.
12. Disconnect the connectors on the rear panel.
13. Screw on the service panel.
14. Reconnect all cables.
15. Start the OptoLyzer OL3050e again.

Copyright © 2006 - 2010 SMSC

5 Technical Specification

5.1 Mechanical Characteristics

Mechanical Dimensions

Mechanical dimensions of the OptoLyzer OL3050e in millimeters, without screws, plugs and switches:

Height	Width	Depth
43.5	134	175

Table 5-1: Mechanical Dimensions of the OptoLyzer OL3050e

Weight of the OptoLyzer OL3050e: 1134 g.

Environmental Specification

Protection against Over Temperature

The computer system integrates temperature sensitive components. Therefore do not cover the device with paper, textiles or other objects. Covering disables the passive cooling (cooling rips). Make sure to allow enough airflow to the computer system, when the device is assembled. Do never place the running computer system in a closed case or box. Clean the surface of the computer system from dust, oil and other isolating materials, to prevent a reduction of the cooling efficiency.

Operating mode:

Parameter	Values
Ambient temperature	0° to 50°C
Relative humidity (non-condensing)	80%

Non-operating mode (Storage):

Parameter	Values
Ambient temperature	-40° to 85°C
Relative humidity (non-condensing)	95%

Copyright © 2006 - 2010 SMSC

5.2 Electrical Characteristics

Power Supply

Operating Voltage: 8 V-30 V (DC)
Power Consumption: Operation (typical): 14 W

Power Input / Main Supply Connector

Pin	Description
1	Power
2	ION
3	GND

Table 5-2: Power Supply Connector

MOST ePHY connector assignment:

The pin assignment of the MOST ePHY connector depicted in section 3.1.1 is described in Table 5-3.

Pin	Name	Description
2	ETXP	Transmitter positive
3	ETXN	Transmitter negative
6	ERXN	Receiver negative
7	ERXP	Receiver positive
1, 4, 5, 8	EGND	ePHY Ground

Table 5-3: Electrical Interface – MOST ePHY Connector

Audio Line IN/OUT

The electrical properties are described in Table 5-4.

Name	Description
Line OUT	Audio stereo signal output: V_{OutTyp} = 0.9 V (RMS) at RL = 5 kΩ, RL_{Min}= 3 kΩ 3.5 mm plug
Line IN	Audio stereo signal input: V_{InMax} = 1.1 V (RMS) at R_{In} = 12 kΩ 3.5 mm plug

Table 5-4: Line IN/OUT

Copyright © 2006 - 2010 SMSC

Technical Data of the Hardware Trigger interface

Hardware Trigger	1		2		3		4		Power	
Pin	1	2	3	4	5	6	7	8	9	10
Signal	GND	Input	GND	Input	GND	Input	GND	Input	GND	Do not connect (future use)

Table 5-5: Connector Pin List of the Hardware Trigger Interface

Table 5-5 describes the pin connection of the hardware trigger interface.

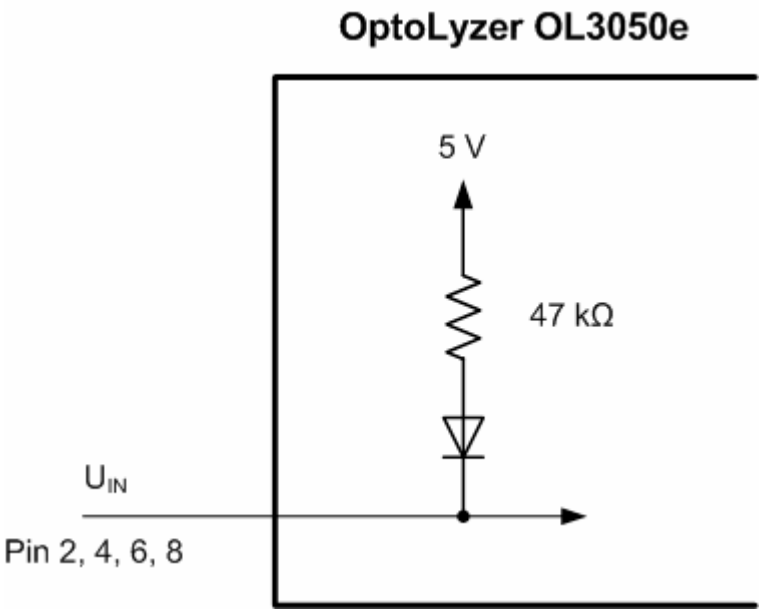

Figure 5-1: Pin Equivalent for Hardware Trigger Input Pins

Figure 5-1 shows that there is an internal pull-up to 5 V. The input is not compatible to TTL logic.

Note:
An external circuit must match the Pin Equivalent for Hardware Trigger Input Pins depicted in Figure 5-1.

- **Input:**

  Switching threshold = 4.5 V
  U_{IN} max = 16 V

Copyright © 2006 - 2010 SMSC

Appendix A: Further Reading

1. *OptoLyzer Socket Protocol* *
2. *OptoLyzer Suite User Manual* **
3. *OptoLyzer G2 30xx Start-up Guide* **
4. *Syntax Compiler BNBuild User Manual* **
5. *DOS Tools MOST PC Interfaces* *

* Contact support-ais-de@smsc.com.
** The current version of the documents can be downloaded from http://www.smsc-ais.com.

Copyright © 2006 - 2010 SMSC

Appendix B: List of Figures

Figure 2-1: Typical Application of the OptoLyzer OL3050e 10
Figure 3-1: OptoLyzer OL3050e (Front View) 12
Figure 3-2: OptoLyzer OL3050e (Rear Panel: Normal Operation) 14
Figure 3-3: Connectivity Diagram – Front Panel 16
Figure 3-4: Connectivity Diagram – Rear Panel (Normal Operation) 17
Figure 3-5: Software Structure 18
Figure 4-1: OptoLyzer OL3050e (Rear Panel: Service Operation) 19
Figure 4-2: Connectivity Diagram – Rear Panel (Service Operation) 20
Figure 5-1: Pin Equivalent for Hardware Trigger Input Pins 26

Copyright © 2006 - 2010 SMSC

Appendix C: List of Tables

Table 1-1: Term Definitions 8
Table 3-1: Status LEDs 13
Table 5-1: Mechanical Dimensions of the OptoLyzer OL3050e 24
Table 5-2: Power Supply Connector 25
Table 5-3: Electrical Interface – MOST ePHY Connector 25
Table 5-4: Line IN/OUT 25
Table 5-5: Connector Pin List of the Hardware Trigger Interface 26

Copyright © 2006 - 2010 SMSC

Appendix D: INDEX

A
AMP 1376366-1 13
Audio Line IN/OUT 13

C
Client 8
CompactFlash 18
CompactFlash Slot 20
Connectivity Diagram 16
Connectivity Diagram Front 16
Connectivity Diagram Rear 17
Control Tasks 11
Controlling software 8

D
Data Recovery 11
Definition of Terms 8

E
Electrical Characteristics 25
Environmental Specification 24
Ethernet Interface 14
Event 8
Events 11

F
Features 9
Front View 12

H
Hardware Trigger pins 26
Host 8

I
Information about LEDs 13
Installation 12

L
LED Power 13
LED Status 13
LEDs 13
Line IN 25
Line OUT 25
Lock LED 13

M
Mechanical Dimensions 24
Message 13
MOST ePHY Connector Assignment 25
MOST Server 8, 18
MOST50 ePHY Connector 13

O
OL3050e Software 18
OptoLyzer OL3050e Software 18
Over Temperature 24

P
Packing List 7
Pin Assignment 25
Power Input 25
Power Jack 14
Power Supply 25
Power Switch Button 14

R
Ready 13
Rear Panel 14

S
S/PDIF 15
Scope of Delivery 7
Service Mode 14
Service Panel 14
Spy Tasks 11
System Description 12

T
Technical Data of the Hardware Trigger Interface 26
Technical Specification 24
Term Definitions 8
Trigger Interface 12
Typical Application 10

U
UTP 8

Copyright © 2006 - 2010 SMSC

Note:

Copyright © 2006 - 2010 SMSC